

From navy.radio at gmail.com Tue Sep 6 16:20:45 2022
From: navy.radio at gmail.com (Nick England)
Date: Tue, 6 Sep 2022 12:20:45 -0400
Subject: [BoatAnchors] Shelby NC hamfest photos 2022
Message-ID: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>

Shelby NC hamfest photos 2022
<https://photos.app.goo.gl/FwAXFNSyA8qfFhbQ7>

A good time was had by all.....
Nick England K4NYW
www.navy-radio.com

From pfthekan at gmail.com Tue Sep 6 18:39:49 2022
From: pfthekan at gmail.com (Paul Thekan)
Date: Tue, 6 Sep 2022 11:39:49 -0700
Subject: [BoatAnchors] Shelby NC hamfest photos 2022
In-Reply-To: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>
References: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>
Message-ID: <CAK4LMKP36dRYycKK01NBADBN0Gcu1_jhWR9fLh_i1k=kBhbrdQ@mail.gmail.com>

Thanks Nick as always!!
Sure we're lot of Collins 388's

Paul
N6FEG

On Tue, Sep 6, 2022, 9:21 AM Nick England via BoatAnchors <
boatanchors at lists.theporch.com> wrote:

> Shelby NC hamfest photos 2022
> <https://photos.app.goo.gl/FwAXFNSyA8qfFhbQ7>
>
> A good time was had by all.....
> Nick England K4NYW
> www.navy-radio.com
> -----
> BoatAnchors mailing list
> BoatAnchors at lists.theporch.com
> <https://lists.theporch.com/mailman/listinfo/boatanchors>
>

From kb8tad at gmail.com Tue Sep 6 19:05:46 2022
From: kb8tad at gmail.com (Rich Post)
Date: Tue, 6 Sep 2022 15:05:46 -0400
Subject: [BoatAnchors] Shelby NC hamfest photos 2022
In-Reply-To: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>
References: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>

Message-ID: <CAEJr0FvUAweqB+v=cnoLWQFeFi0ANrK=wF5ieQThd7ZC8SCr8Q@mail.gmail.com>

Hi Nick,

Thanks for the vicarious review of the Shelby hamfest. Great to see all the boatanchors including many I can scarcely lift anymore. Great shot toward the end with that "laying on of hands" for an R-390A that really needs it!

Cheers es 73,

Rich KB8TAD

<<https://people.ohio.edu/poslr/bapix/index.htm?>

On Tue, Sep 6, 2022 at 12:22 PM Nick England via BoatAnchors <boatanchors at lists.theporch.com> wrote:

> Shelby NC hamfest photos 2022
> <https://photos.app.goo.gl/FwAXFNSyA8qfFhbQ7>
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> Nick England K4NYW
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> -----
> BoatAnchors mailing list
> BoatAnchors at lists.theporch.com
> <https://lists.theporch.com/mailman/listinfo/boatanchors>
>

From navy.radio at gmail.com Tue Sep 6 19:11:37 2022

From: navy.radio at gmail.com (Nick England)

Date: Tue, 6 Sep 2022 15:11:37 -0400

Subject: [BoatAnchors] Shelby NC hamfest photos 2022

In-Reply-To: <CAEJr0FvUAweqB+v=cnoLWQFeFi0ANrK=wF5ieQThd7ZC8SCr8Q@mail.gmail.com>

References: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>

<CAEJr0FvUAweqB+v=cnoLWQFeFi0ANrK=wF5ieQThd7ZC8SCr8Q@mail.gmail.com>

Message-ID: <CAB55hNffWXOL8HduUY_3ku7kM7ZnWSm3gWF8BW0os_kKphQNeQ@mail.gmail.com>

I was shouting "Have Faith and Be Healed!" to that poor R-390A.

It had been a USN shipboard unit, perhaps installed on the weather deck!

Nick England K4NYW

www.navy-radio.com

On Tue, Sep 6, 2022 at 3:06 PM Rich Post via BoatAnchors <boatanchors at lists.theporch.com> wrote:

> Hi Nick,

>

> Thanks for the vicarious review of the Shelby hamfest. Great to see all
> the boatanchors including many I can scarcely lift anymore. Great shot
> toward the end with that "laying on of hands" for an R-390A that really
> needs it!

>

> Cheers es 73,

> Rich KB8TAD

> <<https://people.ohio.edu/poslr/bapix/index.htm>?>

>

> On Tue, Sep 6, 2022 at 12:22 PM Nick England via BoatAnchors <
> boatanchors at lists.theporch.com> wrote:

>

> > Shelby NC hamfest photos 2022

> > <https://photos.app.goo.gl/FwAXFNSyA8qfFhbQ7>

> >

> > A good time was had by all.....

> > Nick England K4NYW

> > www.navy-radio.com

> >

> > -----
> > BoatAnchors mailing list

> > BoatAnchors at lists.theporch.com

> > <https://lists.theporch.com/mailman/listinfo/boatanchors>

> >

> > -----

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> > <https://lists.theporch.com/mailman/listinfo/boatanchors>

>

From kd5byb at kd5byb.net Wed Sep 7 22:25:47 2022

From: kd5byb at kd5byb.net (Ben Hall)

Date: Wed, 7 Sep 2022 17:25:47 -0500

Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

In-Reply-To: <CAB55hNffWXOL8HduUY_3ku7kM7ZnWSm3gWF8BW0os_kKphQNeQ@mail.gmail.com>

References: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>

<CAEJr0FvUAweqB+v=cnoLWQFeFi0ANrK=wF5ieQThd7ZC8SCr8Q@mail.gmail.com>

<CAB55hNffWXOL8HduUY_3ku7kM7ZnWSm3gWF8BW0os_kKphQNeQ@mail.gmail.com>

Message-ID: <be53c1a7-b495-99d9-82e7-472ac8f62d5e@kd5byb.net>

Good evening all,

A big public thank-you to Nick K4NYW for photos of the Shelby hamfest. I love seeing photos of hamfests I'm not able to attend. Very nice. I've got to get out to Shelby one of these days. Maybe next year as hopefully we'll be fully thru the current situation we've got going on. :)

I've got a pair of military Hammarlund Super-Pro receivers - one BC-794 and one BC-779. I've got one of the 25 to 60 Hz power supplies that have got to have the

biggest power transformer ever on a receiver. I'm fixing on starting major surgery on the BC-794 first, as it seems to be in worse shape, has more modifications, and most importantly, it's where I can get to it easily at the moment, hahaha.

So I was reading thru the manual and came up with an interesting question I thought I'd pose to y'all. The AC power supply is a fairly complicated affair, providing +385 VDC, +270 VDC, +140 VDC, and -50 VDC (and 6.3 VAC for the filaments) to the receiver. That +385 VDC seems awfully hot for a receiver. (I think it only services the audio output tubes - PP 6V6's.)

Yet...the manual shows a battery power supply setup that only provides +225 VDC, +90 VDC, and -45 VDC (plus 6 VDC for the filaments) to the receiver.

The manual doesn't say anything about it, but I'd assume that performance on batteries would be just as good as when on the AC supply, perhaps minus some audio output power. So if it worked fine on the lower battery voltages, why run it at so much higher voltage on the AC supply? For sure, lower voltage on batteries equals less power consumption on the batteries, and I can see no one caring much about power consumption on the AC supply...but I still am scratching my head as to why.

Thoughts? Comments? I'd love to hear y'all's thoughts.

Thanks much and 73,
ben, kd5byb

From spr at earthlink.net Thu Sep 8 00:49:47 2022
From: spr at earthlink.net (Scott Robinson)
Date: Wed, 7 Sep 2022 17:49:47 -0700
Subject: [BoatAnchors] Shelby NC hamfest photos 2022
In-Reply-To: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>
References: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>
Message-ID: <504905ca-d1f2-29ee-d453-a87482f3c63e@earthlink.net>

I was amazed to see the VEF brand wood radio. I have one similar to it. It was made in Latvia, where the Soviets concentrated their electronics manufacturing. Mid-'30s superhet, with 135 kHz (!) IF.

/scott robinson

On 9/6/22 9:20 AM, Nick England via BoatAnchors wrote:
> Shelby NC hamfest photos 2022
> <https://photos.app.goo.gl/FwAXFNSyA8qfFhbQ7>
>
> A good time was had by all.....

> Nick England K4NYW
> www.navy-radio.com
> -----
> BoatAnchors mailing list
> BoatAnchors at lists.theporch.com
> <https://lists.theporch.com/mailman/listinfo/boatanchors>

From k1lky68 at gmail.com Thu Sep 8 04:28:32 2022
From: k1lky68 at gmail.com (Roy Morgan)
Date: Thu, 8 Sep 2022 00:28:32 -0400
Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.
In-Reply-To: <be53c1a7-b495-99d9-82e7-472ac8f62d5e@kd5byb.net>
References: <be53c1a7-b495-99d9-82e7-472ac8f62d5e@kd5byb.net>
Message-ID: <00548A63-EA8D-4DD2-A0F6-A93FEBFC4DD8@gmail.com>

Ben,

Some suggestions about the Super Pro radios:

-the military power supply may (if I remember right) have a transformer primary tap for 120 volts. USE IT! With modern line voltages, the filament and B+ Voltages at the radio may be higher than you want. (Supply to radio umbilical wire resistance helps - measure filament voltage at the tube sockets, or radio rear chassis terminal strip.)

-if (?) the B+ filter network is capacitor input, removing that cap would reduce the B+ With benefit in tube life

-the push-pull audio stage (6F6 's in my BC-779) can produce way more power than you need. Increase the cathode resistor to reduce plate current and extend tube life

-crystal filter alignment procedure in the manuals may be inadequate - find improved method shared by fellows since the manual was published.

-the crystal phasing control shaft is BAKELITE, and easily broken. Be careful of it.

-there is a simple modification published by Hammarlund to reduce warm-up frequency drift. The difficulty is finding negative temperature coefficient capacitor

-if you undertake a thorough capacitor replacement (black beauties purge!), find the ones inside the IF cans.

-if the audio output transformer is bad, you may decide on a replacement with normal output impedance, not the as-built 600(?) ohms.

-a twin lead to coax TV Balun on antenna input may improve signal levels.

The BC-779 here is as old as I am (70+) and has been on the project list for 50 years!

Roy Morgan
K1LKY Western Mass
K1LKY68 at gmail.com

> On Sep 7, 2022, at 6:25 PM, Ben Hall via BoatAnchors <boatanchors at lists.theporch.com> wrote:

>

> ?Good evening all,

> . . .

> I've got a pair of military Hammarlund Super-Pro receivers - one BC-794 and one BC-779. I've got one of the 25 to 60 Hz power supplies that have got to have the biggest power transformer ever on a receiver.

> . . .

> That +385 VDC seems awfully hot for a receiver. (I think it only services the audio output tubes - PP 6V6's.

> , . . .

> Yet...the manual shows a battery power supply setup that only provides +225 VDC, +90 VDC, and -45 VDC (plus 6 VDC for the filaments) to the receiver.

> . . .

> Thoughts? Comments? I'd love to hear y'all's thoughts.

>

> Thanks much

From dickburk at ix.netcom.com Thu Sep 8 06:17:32 2022

From: dickburk at ix.netcom.com (dickburk)

Date: Wed, 07 Sep 2022 23:17:32 -0700

Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

In-Reply-To: <00548A63-EA8D-4DD2-A0F6-A93FEBFC4DD8@gmail.com>

Message-ID: <mailman.58070.1662617868.1256.boatanchors@lists.theporch.com>

? The power supply usually supplied with the BC 779?Is the universal supply,? works with 25hz to 60hz??The handbooks show the voltage taps.? Mine is in storage at the moment.? I think there us a 130v tap,? if do that's the one to use.? I think the TC cap used on the SP 400. Is 5 pF N 1250.? Evev a N 750 will help.? I ruggedized with a VR 150 on the oscillator plate.? The plate resistor should be changed from 12K to about 8K .?The best caps for RF are polypropylene.? Should be used throughout.? May be a couple in the tuning unit, don't remember. Definitely in the IF cans.These are very fine receivers the dint need much modification.Note:? changing the value of the cathode resistor will change its class of operation.? That will require a different output transformer.? ?Don't do it.? The output stage runs class AB2 and is fairly efficient.? A 12V filament transformer works well as a speaker matching transformer.Note that the extended? hf version (goes to 40 mhz) has a different Rf Amp circuit,? shunt fed instead of

series fed in order to increase the Q of the coils and improve rf selectivity and thus image suppression and to increase gain.?The crystal filter is easy to adjust,? I don't remember the book method. Hammarlund had a patented crystal filter circuit , easily the best of the bunch.? ?Patent by Donald K Orem who was CE of the company. This is a very good filter, usable for phone and excellent for cw.Sent from my Galaxy

----- Original message -----From: Roy Morgan via BoatAnchors <boatanchors at lists.theporch.com> Date: 9/7/22 9:28 PM (GMT-08:00) To: Ham radios with tubes <boatanchors at lists.theporch.com> Cc: Roy Morgan <k1lky68 at gmail.com> Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions. Ben,Some suggestions about the Super Pro radios:-the military power supply may (if I remember right) have a transformer primary tap for 120 volts. USE IT! With modern line voltages, the filament and B+ Voltages at the radio may be higher than you want. (Supply to radio umbilical wire resistance helps - measure filament voltage at the tube sockets, or radio rear chassis terminal strip.)-if (?) the B+ filter network is capacitor input, removing that cap would reduce the B+ With benefit in tube life -the push-pull audio stage (6F6 's in my BC-779) can produce way more power than you need.? Increase the cathode resistor to reduce plate current and extend tube life-crystal filter alignment procedure in the manuals may be inadequate - find improved method shared by fellows since the manual was published. -the crystal phasing control shaft is BAKELITE, and easily broken. Be careful of it. -there is a simple modification published by Hammarlund to reduce warm-up frequency drift. The difficulty is finding negative temperature coefficient capacitor -if you undertake a thorough capacitor replacement (black beauties purge!), find the ones inside the IF cans. -if the audio output transformer is bad, you may decide on a replacement with normal output impedance, not the as-built 600(?) ohms. -a twin lead to coax TV Balun on antenna input may improve signal levels. The BC-779 here is as old as I am (70+) and has been on the project list for 50 years!Roy MorganK1LKY Western MassK1LKY68 at gmail.com> On Sep 7, 2022, at 6:25 PM, Ben Hall via BoatAnchors <boatanchors at lists.theporch.com> wrote:> > ?Good evening all,> . . . > I've got a pair of military Hammarlund Super-Pro receivers - one BC-794 and one BC-779.? I've got one of the 25 to 60 Hz power supplies that have got to have the biggest power transformer ever on a receiver.? . . . > That +385 VDC seems awfully hot for a receiver.? (I think it only services the audio output tubes - PP 6V6's.? , . . > Yet...the manual shows a battery power supply setup that only provides +225 VDC, +90 VDC, and -45 VDC (plus 6 VDC for the filaments) to the receiver.> . . , > Thoughts?? Comments?? I'd love to hear y'all's thoughts.> > Thanks

much_____BoatAnchors mailing
listBoatAnchors at lists.theporch.com<https://lists.theporch.com/mailman/listinfo/boatanchors>

From dickburk at ix.netcom.com Thu Sep 8 06:41:53 2022

From: dickburk at ix.netcom.com (dickburk)

Date: Wed, 07 Sep 2022 23:41:53 -0700

Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

Message-ID: <mailman.58081.1662619318.1256.boatanchors@lists.theporch.com>

My computer went belly up so I am stuck with this phone.? Can't type on it worth a darn.? Please forgive all the fat finger stuff.Sent from my Galaxy

From thompson at mindspring.com Thu Sep 8 12:47:27 2022
From: thompson at mindspring.com (Dave Thompson)
Date: Thu, 08 Sep 2022 12:47:27 +0000
Subject: [BoatAnchors] Before I list them on the sales sites
Message-ID: <5397848a-698d-6e87-3c5b-e3ed24ba265d@mindspring.com>

I have two rare items I want to sell prefer local Atlanta Metro area.

1. A Viking Sideband adapter in restorable condition. This one is a filter type adapter that easily hooks up to the Valiant II. Like the phasing SB-10,all you need is a stable VFO to drive it but unlike the SB-10 this has a power supply built in. You can even use it for a complete 1 0r 2 watt SSB Transmitter. Drives a AB1 amp to at least 500 watts input depending on the rms drive from your vfo. I plan to list it for \$500 but pick up in metro atlanta for \$400/
2. Restored 1963 Heath HX-20/HR-20 mobile pair with power supply,all wiring, a nice dow key relay from K1VVC. Checked into the Vintage SSB net on 20 twice with good results. \$450 but pick up for \$375.

All Manuals included in both. Put in storage after my basement flooded in 2020 and stored in a temperature controlled basement with another ham

e-mail me only please not to boatanchors. Pictures on request. Will take PAYPAL, personal, check, or cash. QTH OK on QRZ

73 Dave K4JRB

From gumbear at pacbell.net Thu Sep 8 17:01:21 2022
From: gumbear at pacbell.net (Arden Allen)
Date: Thu, 8 Sep 2022 10:01:21 -0700
Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.
In-Reply-To: <mailman.58070.1662617868.1256.boatanchors@lists.theporch.com>
References: <mailman.58070.1662617868.1256.boatanchors@lists.theporch.com>
Message-ID: <38A5CB5B298F406F8A404B25432D8C6D@Lenovo>

Stated: "...Note: changing the value of the cathode resistor will change its class of operation. That will require a different output transformer. Don't do it. ..."

Wrong, if I say so. Cathode resistor self bias provides class A operating conditions with great tolerance for variation in quiescent plate current. Unless going to extremes a slight increase in cathode resistance reduces output power slightly. Not to worry, replacing the output transformer is not necessary. Keep in mind, if you are listening to the radio at full

power output from p-p 6F6's you are stone cold deaf.

Arden Allen
KB6NAX

-----Original Message-----

From: dickburk via BoatAnchors
Sent: Wednesday, September 07, 2022 11:17 PM
To: Ham radios with tubes
Cc: dickburk
Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

The power supply usually supplied with the BC 779 Is the universal supply, works with 25hz to 60hz The handbooks show the voltage taps. Mine is in storage at the moment. I think there us a 130v tap, if do that's the one to use. I think the TC cap used on the SP 400. Is 5 pF N 1250. Eeve a N 750 will help. I ruggedized with a VR 150 on the oscillator plate. The plate resistor should be changed from 12K to about 8K . The best caps for RF are polypropylene. Should be used throughout. May be a couple in the tuning unit, don't remember. Definitely in the IF cans. These are very fine receivers the dint need much modification. Note: changing the value of the cathode resistor will change its class of operation. That will require a different output transformer. Don't do it. The output stage runs class AB2 and is fairly efficient. A 12V filament transformer works well as a speaker matching transformer. Note that the extended hf version (goes to 40 mhz) has a different Rf Amp circuit, shunt fed instead of series fed in order to increase the Q of the coils and improve rf selectivity and thus image suppression and to increase gain. The crystal filter is easy to adjust, I don't remember the book method. Hammarlund had a patented crystal filter circuit , easily the best of the bunch. Pattent by Donald K Orem who was CE of the company. This is a very good filter, usable for phone and excellent for cw. Sent from my Galaxy

----- Original message ----- From: Roy Morgan via BoatAnchors
<boatanchors at lists.theporch.com> Date: 9/7/22 9:28 PM (GMT-08:00) To: Ham radios with tubes <boatanchors at lists.theporch.com> Cc: Roy Morgan <k1lky68 at gmail.com> Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions. Ben, Some suggestions about the Super Pro radios: -the military power supply may (if I remember right) have a transformer primary tap for 120 volts. USE IT! With modern line voltages, the filament and B+ Voltages at the radio may be higher than you want. (Supply to radio umbillical wire resistance helps - measure filament voltage at the tube sockets, or radio rear chassis terminal strip.) -if (?) the B+ filter network is capacitor input, removing that cap would reduce the B+ With benefit in tube life -the push-pull audio stage (6F6 's in my BC-779) can produce way more power than you need. Increase the cathode resistor to reduce plate current and extend tube life -crystal filter alignment procedure in the manuals may be inadequate - find improved method shared by fellows since the manual was published. -the crystal phasing control shaft is BAKELITE, and

easily broken. Be careful of it. -there is a simple modification published by Hammarlund to reduce warm-up frequency drift. The difficulty is finding negative temperature coefficient capacitor -if you undertake a thorough capacitor replacement (black beauties purge!), find the ones inside the IF cans. -if the audio output transformer is bad, you may decide on a replacement with normal output impedance, not the as-built 600(?) ohms. -a twin lead to coax TV Balun on antenna input may improve signal levels. The BC-779 here is as old as I am (70+) and has been on the project list for 50 years! Roy Morgan K1LKY Western Mass K1LKY68 at gmail.com> On Sep 7, 2022, at 6:25 PM, Ben Hall via BoatAnchors <boatanchors at lists.theporch.com> wrote:> > ?Good evening all,> . . . > I've got a pair of military Hammarlund Super-Pro receivers - one BC-794 and one BC-779. I've got one of the 25 to 60 Hz power supplies that have got to have the biggest power transformer ever on a receiver. . . . > That +385 VDC seems awfully hot for a receiver. (I think it only services the audio output tubes - PP 6V6's. , . . > Yet...the manual shows a battery power supply setup that only provides +225 VDC, +90 VDC, and -45 VDC (plus 6 VDC for the filaments) to the receiver.> . . . , > Thoughts? Comments? I'd love to hear y'all's thoughts.> > Thanks much
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listBoatAnchors at lists.theporch.com<https://lists.theporch.com/mailman/listinfo/boatanchors>

BoatAnchors mailing list
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<https://lists.theporch.com/mailman/listinfo/boatanchors>

From gumbear at pacbell.net Thu Sep 8 17:27:11 2022
From: gumbear at pacbell.net (Arden Allen)
Date: Thu, 8 Sep 2022 10:27:11 -0700
Subject: [BoatAnchors] Fw: Shelby Photos, Super-Pro Power Supply questions.
References: <C0450EF216F847F4861222F2482F2F83.ref@Lenovo>
Message-ID: <C0450EF216F847F4861222F2482F2F83@Lenovo>

From: Arden Allen
Sent: Thursday, September 08, 2022 10:16 AM
To: Ham radios with tubes
Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

Also, pulling out one of the two output tubes necessitates doubling the value of the cathode resistor, the remaining 6F6 will be running too hard.

(BC-779 schematic omitted)

Arden Allen
KB6NAX

-----Original Message-----

From: dickburk via BoatAnchors
Sent: Wednesday, September 07, 2022 11:17 PM
To: Ham radios with tubes
Cc: dickburk
Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

The power supply usually supplied with the BC 779 Is

From kd5byb at kd5byb.net Thu Sep 8 22:15:59 2022
From: kd5byb at kd5byb.net (Ben Hall)
Date: Thu, 8 Sep 2022 17:15:59 -0500
Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.
In-Reply-To: <00548A63-EA8D-4DD2-A0F6-A93FEBFC4DD8@gmail.com>
References: <be53c1a7-b495-99d9-82e7-472ac8f62d5e@kd5byb.net>
<00548A63-EA8D-4DD2-A0F6-A93FEBFC4DD8@gmail.com>
Message-ID: <9f8da65d-d9b4-ef98-27e1-587ba8b01d1b@kd5byb.net>

Good afternoon all,

After a somewhat hectic day at work, it's nice to sit down and think about boatanchors. :)

I'm going to try and respond to all the responses I got in one post - hopefully I get the attributions correct. Forgive me if I do not.

Please excuse the rambling, stream-of-conscious writing style. I am literally thinking about this as I'm writing about it, so hopefully it's not too much of a mess to understand.

I'll use Roy's (K1LKY) as the template, and interject other comments as needed.

On 9/7/2022 11:28 PM, Roy Morgan wrote:

> -the military power supply may (if I remember right) have a
> transformer primary tap for 120 volts. USE IT! With modern line
> voltages, the filament and B+ Voltages at the radio may be higher
> than you want. (Supply to radio umbilical wire resistance helps -
> measure filament voltage at the tube sockets, or radio rear chassis
> terminal strip.)

There are multiple variants of the military RA-74 power supply - three maybe? Could be more. There are days that I can't count correctly. ;) The one I've got has *many* input voltage taps: 260, 234, 210, 190, 130, 117, 105, and 95 VAC! The Kill-A-Watt is currently indicating my line voltage at 119 volts, but I've seen as high as 130 if I remember right on rare occasions. I've already switched the tap from 117 VAC as received to the 130 VAC tap. :)

I've almost got my power supply to radio connection cord completed...ran out of 12 AWG crimp terminals and had to order some more. I went with 12 AWG for the filament lines and ground line as I'm building it to about 7 feet in length to support troubleshooting. Everything else is 20 or 22 AWG, I forget. When I build the final cable to put it in use, I'll go shorter and maybe thinner gauge.

> -if (?) the B+ filter network is capacitor input, removing that cap
> would reduce the B+ With benefit in tube life

Indeed, it does. The 5Z3 is cap input, 8 uF, with additional LC stages past that. I did some fooling around with the PSU Designer II software and attempted to make a model of the supply as-is to see what removal / movement of that input capacitor would do.

There is some guessing involved here, as I don't have all the specifications on the transformer, I have to make some guesses as to the current being drawn from each of the stages, not sure about cap ESR, etc..., but after about 10 minutes of farting around I had currents that made somewhat sense and got output voltages really close to the specified output voltages. (IE: 384.3 VDC for the +385 section, 268.95 VDC for the +270 section, and 138.31 for the +140 section.)

If remove that first 8uF cap and make it choke-input, output voltages are now +270, +160, and +83 vice the original +385, +270, and +140.

Looking back at the battery cable connection diagram, they are feeding the set with +225 and +90. Note only two HV supplies versus the original three with the AC supply. There's no wiring diagram, so I *assume* that they feed +225 to *both* the +385 and +270 terminals.

Certainly, I'm in the neighborhood here, as I could feed that +270 to *both* the +385 and +270 inputs a la the battery hookup, and I need to do some schematic tracing to be 100% sure, but I'd guess that feeding the +90 with +83 would be fine.

The problem (or maybe it's not a problem!) becomes ripple - the original cap-input design is quite clean, and that new +270 VDC line has about 5 V-pp of ripple on it. If I take the disconnected input cap, and parallel it with the second cap after the choke, for 16 uF of filtering, I can get that down to about 2.4 V-pp. That's probably fine for the PP 6F6 outputs...but I really don't have any clue if that's okay for the rest of the radio. I could always add more to get it down further.

SOMETHING THAT JUST OCCURRED TO ME: If I leave the supply as-is, perhaps I hook the set up to the AC power supply like what I assume they do with battery connections:

IE: Feed both the +385 and +270 inputs on the radio from the +270 output of the

power supply. Problem becomes choke ratings - I'd be running all the current thru both L1 and L2, and L1 is rated for 160 mA, with L2 only rated for 110 mA. Will the set draw under 110 mA? (and while L1 is 350 ohms, L2 is 1,150 ohms, so there will be additional voltage drop across L2 at the higher current draw, which then probably drops the +90 output somewhat.

I may have to experiment with this. Lower voltage should lower current consumption, so I'd think that this would be the case.

I'm usually very disinclined to modify anything like this, as I realize that I'm a complete idiot compared to the people that designed these sets. That said, I know engineers make trade-offs in designs and have differing priorities, as I am one myself. ;) I'm sure the designers had different priorities than I do. They probably never thought some bozo-the-clown like me would be working on one of these sets 80 years later. They lived in an era where 6F6's were plentiful...and relatively cheap...and I do not. I'd like the set to outlast me, the designers probably thought a set surviving 20 years was fine. (or just surviving the war would be good!)

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That cathode resistor is a +/- 5% part, so increasing it to 788 ohms would be perfectly safe.

My conclusion is that upping the cathode resistor by a couple of hundred ohms probably wouldn't hurt anything and would prolong life of the tubes by dropping plate current.

However, that's tempered by the fact I realize I'm an idiot, and nowhere near as smart as the original designers.

I'm not smart enough to wade deep into if upping the cathode resistor changes the operating class and requires transformer changes, but I'm inclined think not, as long as the cathode resistor change isn't something total crazy like going from 750 to 7,500 ohms.

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Roger that. I found some online discussion of the crystal filter alignment procedure being not the greatest in the military TM's. When I get to that point in the repair, I'll study the various manuals and see if I can't find more online.

> -the crystal phasing control shaft is BAKELITE, and easily broken. Be
> careful of it.

I'm very lucky here, both of my receivers came with pre-broken XTAL Phasing shafts *and* BFO shafts. ;) For the XTAL Phasing shafts...one I was able to repair with some garolite rod and epoxy, and the second one has already been repaired once by substitution of an aluminum shaft for the bakelite. This is probably a bad idea and needs rectified with bakelite or garolite, I assume to eliminate hand-effects?

> -there is a simple modification published by Hammarlund to reduce
> warm-up frequency drift. The difficulty is finding negative
> temperature coefficient capacitor

I've seen references to this modification. Interestingly, one of the mods to my set has been replacement of several original capacitors in the tuner assembly with silver-mica units. I need to make a note and see if this might have been part of that or not. I think not. I'll have to find that mod and think about it. Can one find the appropriate temp constant caps to do it? I'll have to look.

> -if you undertake a thorough capacitor replacement (black beauties
> purge!), find the ones inside the IF cans.

That's going to be plan - remove all the wax-papers, and see how the bathtubs measure out. These are older than the Black Uglies I figure. I've got about a 50/50 success rate with bathtubs, and one of them in the 794 is leaking oil, so they'll probably get replaced. I've not yet decided if I'm going to restuff the bathtubs or not.

I have made a note of the fact that there's paper units inside the tuner assembly that requires removal of the tuner assembly as well as some in the various IF (and I think BFO?) cans. Pulling those is going to be fun, not. ;) I did this on an NC-100 series set some years ago, and it wasn't really all that bad.

I'm a big fan of polypropylene capacitors. That's usually all I use and that's all I stock. The set does have a few ceramic disks already installed in a somewhat sloppy fashion that will get replaced. Usually I think ceramic caps are evil, but then Hammarlund used them in the HQ-150 radios...

> -if the audio output transformer is bad, you may decide on a
> replacement with normal output impedance, not the as-built 600(?)
> ohms.

I need to make a note to check that transformer. If it's bad, it will get replaced, likely with something with 8 ohm output. We'll see.

> -a twin lead to coax TV Balun on antenna input may improve signal
> levels.

Both of my sets have modifications to remove the balanced input terminals, and to replace them with unbalanced. On one, it was an RCA jack with one side grounded...on the other...it was coaxial, I think BNC, again with one side grounded.

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thanks much and 73 y'all!
-b

From dickburk at ix.netcom.com Thu Sep 8 23:03:40 2022
From: dickburk at ix.netcom.com (dickburk)
Date: Thu, 08 Sep 2022 16:03:40 -0700
Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.
Message-ID: <mailman.58511.1662678227.1256.boatanchors@lists.theporch.com>

A note about specified voltages.? They were measured with a 1000 ohm/volt meter except for grid/AVC voltages, which were measured with a vtvm.? If you use a modern 20,000 ohm/volt meter many voltages will read high.? BTW this is also true of the SP-600-JXSo if you have somewhat high voltages check your VOM they may actually be ok.Sent from my Galaxy

From gumbear at pacbell.net Thu Sep 8 23:37:54 2022
From: gumbear at pacbell.net (Arden Allen)
Date: Thu, 8 Sep 2022 23:37:54 +0000 (UTC)
Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.
In-Reply-To: <9f8da65d-d9b4-ef98-27e1-587ba8b01d1b@kd5byb.net>
References: <be53c1a7-b495-99d9-82e7-472ac8f62d5e@kd5byb.net>
<00548A63-EA8D-4DD2-A0F6-A93FEBFC4DD8@gmail.com>
<9f8da65d-d9b4-ef98-27e1-587ba8b01d1b@kd5byb.net>
Message-ID: <213664862.1249380.1662680274767@mail.yahoo.com>

One learns little not attempting to solve "problems."? That's how we graduate from idiot-hood to "it works now-hood."? Replacing the filament current hungry 6F6's with 6V6 or 6K6 tubes may be a solution.? Checking the voltage across the cathode resistor gives you the sum of plate and screen currents for the pair.? Keep in mind one cathode resistor sets the operating conditions for TWO tubes.? With only one tube you have to double the cathode resistor value to properly set the operating condition for the one tube.
Additionally, fixed bias and cathode resistor self bias are two different modes of operation.? Transformer grid drive mode allows grid current with less distortion at higher output levels.? Lots of work on family curves to see the difference but what you will learn is for normal power output levels cathode resistor self bias gives you class A operation.? The lash-up in the BC-779 and brethren is called class AB2 because the tubes can be driven from grid current plate saturation to

cutoff - beyond OSHA limits for working without ear protectors.? So doing careful study with an oscilloscope eliminates a lot of the "idiot-hood"-ness.? If you want a lower THD level at low volume you have to INCREASE plate current.? The BC-779 is not a McIntosh hi-fi receiver.
God save the King!

Arden

On Thursday, September 8, 2022 at 03:16:18 PM PDT, Ben Hall via BoatAnchors <boatanchors at lists.theporch.com> wrote:

Good afternoon all,

After a somewhat hectic day at work, it's nice to sit down and think about boatanchors.? :)

I'm going to try and respond to all the responses I got in one post - hopefully I get the attributions correct.? Forgive me if I do not.

Please excuse the rambling, stream-of-conscious writing style.? I am literally thinking about this as I'm writing about it, so hopefully it's not too much of a mess to understand.

I'll use Roy's (K1LKY) as the template, and interject other comments as needed.

On 9/7/2022 11:28 PM, Roy Morgan wrote:

> -the military power supply may (if I remember right) have a
> transformer primary tap for 120 volts. USE IT! With modern line
> voltages, the filament and B+ Voltages at the radio may be higher
> than you want. (Supply to radio umbilical wire resistance helps -
> measure filament voltage at the tube sockets, or radio rear chassis
> terminal strip.)

There are multiple variants of the military RA-74 power supply - three maybe?? Could be more.? There are days that I can't count correctly.? ;)? The one I've got has *many* input voltage taps:? 260, 234, 210, 190, 130, 117, 105, and 95 VAC!?! The Kill-A-Watt is currently indicating my line voltage at 119 volts, but I've seen as high as 130 if I remember right on rare occasions.? I've already switched the tap from 117 VAC as received to the 130 VAC tap.? :)

I've almost got my power supply to radio connection cord completed...ran out of 12 AWG crimp terminals and had to order some more.? I went with 12 AWG for the filament lines and ground line as I'm building it to about 7 feet in length to support troubleshooting.? Everything else is 20 or 22 AWG, I forget.? When I build the final cable to put it in use, I'll go shorter and maybe thinner gauge.

> -if (?) the B+ filter network is capacitor input, removing that cap
> would reduce the B+ With benefit in tube life

Indeed, it does.? The 5Z3 is cap input, 8 uF, with additional LC stages past that.? I did some fooling around with the PSU Designer II software and attempted to make a model of the supply as-is to see what removal / movement of that input capacitor would do.

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thanks much and 73 y'all!

-b

BoatAnchors mailing list

BoatAnchors at lists.theporch.com

<https://lists.theporch.com/mailman/listinfo/boatanchors>

From dickburk at ix.netcom.com Fri Sep 9 06:40:21 2022

From: dickburk at ix.netcom.com (dickburk)

Date: Thu, 08 Sep 2022 23:40:21 -0700

Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

Message-ID: <mailman.58688.1662705628.1256.boatanchors@lists.theporch.com>

A quick note:? The audio output stage of the Super Pro runs the 6F6 tubes as triodes,? both the driver an output.? ?The output stage runs Class AB2, meaning the grids are allowed to draw some current.? ?The output power is aroundb12 watts.? ?The stage runs without feedback.? At the time it was designed negative feedback was new and subject to a patent issued to H.S. Black of Bell Labs.The Super Pro was a deluxe quality receiver intended to yield reasonably high fidelity from AM broadcast signals.? ?Leave the audio alone,? it's unlikely you can make a big improvement and are more likely to mess it up.Sent from my Galaxy

From ark at ar88.net Fri Sep 9 15:11:01 2022

From: ark at ar88.net (Al Klase)

Date: Fri, 9 Sep 2022 11:11:01 -0400

Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

In-Reply-To: <mailman.58688.1662705628.1256.boatanchors@lists.theporch.com>

References: <mailman.58688.1662705628.1256.boatanchors@lists.theporch.com>

Message-ID: <c82048fe-dd86-05f5-b113-7d41091202f2@ar88.net>

AMEN!?? You may find this interesting reading:

http://www.skywaves.ar88.net/commr/RCA/AR-88_Audio.pdf

Al

ARK Sig Block Al Klase - N3FRQ

Jersey City, NJ

<http://www.skywaves.ar88.net/>

On 9/9/2022 2:40 AM, dickburk via BoatAnchors wrote:

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From dickburk at ix.netcom.com Fri Sep 9 15:56:48 2022
From: dickburk at ix.netcom.com (dickburk)
Date: Fri, 09 Sep 2022 08:56:48 -0700
Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.
In-Reply-To: <c82048fe-dd86-05f5-b113-7d41091202f2@ar88.net>
Message-ID: <mailman.58939.1662739012.1256.boatanchors@lists.theporch.com>

? I measured the feedback in my AT 88. Not a lot, about 6 or 7 db but that means half the distortion.? ?My hearing is damaged so I am far from being a golden ear.? ?? The audio in tha AR 88 measures about what the graphs in the handbook show,? not exactly high fidelity but they are pretty good.? If you want something a bit better connect sn external amp to the detector output,? you will be surprised.? It helps if you turn the avc off.? In many receivers there is a lot of interaction between the modulation and the avc causing sometimes sever IMD.? the AR 88 is not bad, the SP 600 JX is awful.? On a BC station, even with the internal amp the difference is quite obvious.Sent from my Galaxy

----- Original message -----From: Al Klase <ark at ar88.net> Date: 9/9/22 8:11 AM (GMT-08:00) To: boatanchors at lists.theporch.com Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions. AMEN!?? You may find this interesting reading: http://www.skywaves.ar88.net/commrx/RCA/AR-88_Audio.pdfAlARK Sig Block Al Klase - N3FRQJersey City, NJ<http://www.skywaves.ar88.net/>On 9/9/2022 2:40 AM, dickburk via BoatAnchors wrote:> A quick note: The audio output stage of the Super Pro runs the 6F6 tubes as triodes,? both the driver an output.? ?The output stage runs Class AB2, meaning the grids are allowed to draw some current.? ?The output power is aroundb12 watts.? ?The stage runs without feedback.? At the time it was designed negative feedback was new and subject to a patent issued to H.S. Black of Bell Labs.The Super Pro was a deluxe quality receiver intended to yield reasonably high fidelity from AM broadcast signals.? ?Leave the audio alone,? it's unlikely you can make a big improvement and are more likely to mess it up.Sent from my Galaxy>

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References: <mailman.58939.1662739012.1256.boatanchors@lists.theporch.com>
Message-ID: <aedb077a-9da6-401c-6d58-ced56392d5a5@ar88.net>

While frequency response is a consideration, low inter-modulation distortion is what really make the difference.
Here are the modes I made to my SP-600 a long time ago:
http://www.skywaves.ar88.net/commrx/Hammarlund/SP-600/SP-600_Audio.html

Al

ARK Sig Block Al Klase - N3FRQ
Jersey City, NJ
<http://www.skywaves.ar88.net/>

On 9/9/2022 11:56 AM, dickburk via BoatAnchors wrote:

> ? I measured the feedback in my AT 88. Not a lot, about 6 or 7 db but that means half the distortion.? ?My hearing is damaged so I am far from being a golden ear.? ?? The audio in tha AR 88 measures about what the graphs in the handbook show,? not exactly high fidelity but they are pretty good.? If you want something a bit better connect sn external amp to the detector output,? you will be surprised.? It helps if you turn the avc off.? In many receivers there is a lot of interaction between the modulation and the avc causing sometimes sever IMD.? the AR 88 is not bad, the SP 600 JX is awful.? On a BC station, even with the internal amp the difference is quite obvious.Sent from my Galaxy

> ----- Original message -----From: Al Klase<ark at ar88.net> Date: 9/9/22 8:11 AM (GMT-08:00) To:boatanchors at lists.theporch.com Subject: Re:

[BoatAnchors] Shelby Photos, Super-Pro Power Supply questions. AMEN!?? You may find this interesting reading:http://www.skywaves.ar88.net/commrx/RCA/AR-88_Audio.pdfAlARK Sig Block Al Klase - N3FRQJersey City, NJ<http://www.skywaves.ar88.net/>

On 9/9/2022 2:40 AM, dickburk via BoatAnchors wrote:> A quick note:? The audio output stage of the Super Pro runs the 6F6 tubes as triodes,? both the driver an output.? ?The output stage runs Class AB2, meaning the grids are allowed to draw some current.? ?The output power is aroundb12 watts.? ?The stage runs without feedback.? At the time it was designed negative feedback was new and subject to a patent issued to H.S. Black of Bell Labs.The Super Pro was a deluxe quality receiver intended to yield reasonably high fidelity from AM broadcast signals.? ?Leave the audio alone,? it's unlikely you can make a big improvement and are more likely to mess it up.Sent from my Galaxy>

-----> BoatAnchors mailing list>BoatAnchors at lists.theporch.com> <https://lists.theporch.com/mailman/listinfo/boatanchors>BoatAnchors mailinglistBoatAnchors at lists.theporch.com<https://lists.theporch.com/mailman/listinfo/boatanchors>

> -----
> BoatAnchors mailing list
> BoatAnchors at lists.theporch.com
> <https://lists.theporch.com/mailman/listinfo/boatanchors>

From gumbear at pacbell.net Fri Sep 9 20:24:27 2022
From: gumbear at pacbell.net (Arden Allen)
Date: Fri, 9 Sep 2022 13:24:27 -0700
Subject: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.
In-Reply-To: <c82048fe-dd86-05f5-b113-7d41091202f2@ar88.net>
References: <mailman.58688.1662705628.1256.boatanchors@lists.theporch.com>
<c82048fe-dd86-05f5-b113-7d41091202f2@ar88.net>
Message-ID: <36EB9DAA72104FF6B2A132BF59267F8D@Lenovo>

Precisely why I introduced global negative feedback and pentode 1st audio in my 1938 Zenith table radio. I should have replaced the low frequency range original speaker to fully realize the improvement however.

Arden
KB6NAX

-----Original Message-----

From: Al Klase
Sent: Friday, September 09, 2022 8:11 AM
To: boatanchors at lists.theporch.com
Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

AMEN! You may find this interesting reading:
http://www.skywaves.ar88.net/commr/RCA/AR-88_Audio.pdf

Al

.....

From gumbear at pacbell.net Fri Sep 9 22:07:14 2022
From: gumbear at pacbell.net (Arden Allen)
Date: Fri, 9 Sep 2022 15:07:14 -0700
Subject: [BoatAnchors] Fw: Shelby Photos, Super-Pro Power Supply questions.
References: <794B65D658D9411C805BE4ECFB41DC89.ref@Lenovo>
Message-ID: <794B65D658D9411C805BE4ECFB41DC89@Lenovo>

Resending.....

-----Original Message-----

From: Arden Allen
Sent: Friday, September 09, 2022 1:24 PM
To: Ham radios with tubes
Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

Precisely why I introduced global negative feedback and pentode 1st audio in my 1938 Zenith table radio. I should have replaced the low frequency range original speaker to fully realize the improvement however.

Arden
KB6NAX

-----Original Message-----

From: Al Klase
Sent: Friday, September 09, 2022 8:11 AM
To: boatanchors at lists.theporch.com
Subject: Re: [BoatAnchors] Shelby Photos, Super-Pro Power Supply questions.

AMEN! You may find this interesting reading:
http://www.skywaves.ar88.net/commr/RCA/AR-88_Audio.pdf

Al

.....

From kd5byb at kd5byb.net Sun Sep 18 21:59:19 2022
From: kd5byb at kd5byb.net (Ben Hall)
Date: Sun, 18 Sep 2022 16:59:19 -0500
Subject: [BoatAnchors] Super-Pro BC-794 power-up test
Message-ID: <a366e681-90f6-a94f-828f-9d30e88a7889@kd5byb.net>

Good afternoon all,

Hopefully...this doesn't show up twice. Sent it to the old boatanchors at theporch.com instead of boatanchors at lists.theporch.com...

Finished up the cable to go from the power supply to the radio. :) So I did a careful power-up on the BC-794 today. And by careful, I used an AC wattmeter (kill-a-watt), a dim bulb unit, variac, and had voltmeters monitoring the +385 VDC B+ and -50 VDC bias on the back of the set.

Being able to monitor the critical voltages are a nice feature of external power supplies.

I slowly powered it up and determined that...drum roll please...it works sort of. ;) Received interference from a switching power supply at about 1600 kHz, some very faint music at about 1700 kHz, and this was on about 3" of wire sticking out of the back of the set. Happy with this. Static on the other bands, but that's expected. At least none are stone-cold dead.

I got the main B+ up to about +360 VDC which is as high as I dared and the bias stayed pretty close to around -50 VDC, and the whole lash-up was drawing about 118 watts at about 90% to 95% line voltage on the 130 VAC tap of the power supply. The BFO works, crystal selectivity control works but shows huge hand-effects due to the metal replacement for the broken-off phenolic crystal phasing shaft, and from time to time, the sensitivity adjustment will ground out the -50 VDC bias (really bad!). I did NOT see the S-meter move at all, but since no antenna other

than about 3" of wire coming out of the back of the tuner, I'm not shocked.

The P-P 6F6's got really hot as did the 6F6 driver, so I need to check values around the driver and output stages for drifted components. (transformers stayed room temperature) But, folks did say that the 6F6's get hot, and uh yeah, that's very true, nearly burned my fingers finding that out. ;)

The to-do list:

- 1) obviously, pull the tuner and get all the wax-papers out of it.
- 2) resistor check / cap replacement in the rest of the unit
- 3) figure out what's going on with the sensitivity pot - might have to replace it
- 4) clean / lube the rest of the pots
- 5) replace the metal crystal phasing knob shaft with phenolic, garolite, or plastic (I might 3D print one out of PET-G)
- 6) the dial scale disks have shrunk and warped over time. They don't make good frictional contact with the tuning knob pinch-wheels. Pretty sure I can modify the pinch-wheels for a little better grip - probably 3D printing new larger ones - and have to think about if I want to risk trying to heat up the disks to unwarpage them.

Will keep folks informed!

thanks much and 73,
ben, kd5byb

From arc5 at ix.netcom.com Sun Sep 18 22:44:18 2022
From: arc5 at ix.netcom.com (David Stinson)
Date: Sun, 18 Sep 2022 17:44:18 -0500
Subject: [BoatAnchors] Super-Pro BC-794 power-up test
In-Reply-To: <a366e681-90f6-a94f-828f-9d30e88a7889@kd5byb.net>
References: <a366e681-90f6-a94f-828f-9d30e88a7889@kd5byb.net>
Message-ID: <1f64a98a-5c19-939f-8195-e16e81979bc7@ix.netcom.com>

Thank you for posting this, Ben. Look forward to your next steps. Can't say I understand the need to hammer 6F6 tubes at nearly 400 Volts, even Push-Pull. Keep us up on your efforts.
GL OM DE Dave AB5S

On 9/18/2022 4:59 PM, Ben Hall via BoatAnchors wrote:

> Finished up the cable to go from the power supply to the radio.? :)? So
> I did a careful power-up on the BC-794 today.? And by careful, I used an
> AC wattmeter (kill-a-watt), a dim bulb unit, variac, and had voltmeters
> monitoring the +385 VDC B+ and -50 VDC bias on the back of the set.

--

This email has been checked for viruses by Avast antivirus software.
www.avast.com

From gumbear at pacbell.net Sun Sep 18 23:07:45 2022
From: gumbear at pacbell.net (Arden Allen)
Date: Sun, 18 Sep 2022 23:07:45 +0000 (UTC)
Subject: [BoatAnchors] Super-Pro BC-794 power-up test
In-Reply-To: <a366e681-90f6-a94f-828f-9d30e88a7889@kd5byb.net>
References: <a366e681-90f6-a94f-828f-9d30e88a7889@kd5byb.net>
Message-ID: <406229944.5427780.1663542465400@mail.yahoo.com>

".....The P-P 6F6's got really hot as did the 6F6 driver,....."
Note the 6F6's heater requirement:? 6.3 volts @ 0.7 amps = 4.41 watts.? Quiescent plate dissipation for p-p class A1 operation:? 20 watts nominal according to datasheet.
That's why that tube gets blazing hot.
ArdenKB6NAX

From spr at earthlink.net Mon Sep 19 00:14:29 2022
From: spr at earthlink.net (Scott Robinson)
Date: Sun, 18 Sep 2022 17:14:29 -0700
Subject: [BoatAnchors] Super-Pro BC-794 power-up test
In-Reply-To: <406229944.5427780.1663542465400@mail.yahoo.com>
References: <a366e681-90f6-a94f-828f-9d30e88a7889@kd5byb.net>
<406229944.5427780.1663542465400@mail.yahoo.com>
Message-ID: <b095bf81-94db-262e-2650-2c8fafc98159@earthlink.net>

That's 20W plate and screen power for *two* tubes, so about 10W per tube, plus of course the 4.4W heater power. Toast your fingers for sure!

/scott

On 9/18/22 4:07 PM, Arden Allen via BoatAnchors wrote:
> ".....The P-P 6F6's got really hot as did the 6F6 driver,....."
> Note the 6F6's heater requirement:? 6.3 volts @ 0.7 amps = 4.41 watts.? Quiescent plate dissipation for p-p class A1 operation:? 20 watts nominal according to datasheet.
> That's why that tube gets blazing hot.
> ArdenKB6NAX
>
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>
>

> -----
> BoatAnchors mailing list
> BoatAnchors at lists.theporch.com
> <https://lists.theporch.com/mailman/listinfo/boatanchors>

From cbm McGr at gmail.com Mon Sep 19 01:21:57 2022
From: cbm McGr at gmail.com (C McGregor)
Date: Sun, 18 Sep 2022 18:21:57 -0700
Subject: [BoatAnchors] Super-Pro BC-794 power-up test
In-Reply-To: <a366e681-90f6-a94f-828f-9d30e88a7889@kd5byb.net>
References: <a366e681-90f6-a94f-828f-9d30e88a7889@kd5byb.net>
Message-ID: <CAFTq00QGdZ820YNydjYob3gX+3+i6vpbxXLrsqeLcyFyhC8F6g@mail.gmail.com>

Ben-

The Hammarlund receivers are well shielded. Don't expect to receive signals without at least a few feet of antenna and a decent ground. Also, don't forget there are some waxed paper caps hidden inside T4 and T6.

-Chuck K7MCG

On Sun, Sep 18, 2022 at 3:00 PM Ben Hall via BoatAnchors <boatanchors@lists.theporch.com> wrote:

> Good afternoon all,
>
> Hopefully...this doesn't show up twice. Sent it to the old
> boatanchors at theporch.com instead of boatanchors at lists.theporch.com...
>
> Finished up the cable to go from the power supply to the radio. :) So I
> did a careful power-up on the BC-794 today. And by careful, I used an AC
> wattmeter (kill-a-watt), a dim bulb unit, variac, and had voltmeters
> monitoring the +385 VDC B+ and -50 VDC bias on the back of the set.
>
> Being able to monitor the critical voltages are a nice feature of external
> power supplies.
>
> I slowly powered it up and determined that...drum roll please...it works
> sort of. ;) Received interference from a switching power supply at about
> 1600 kHz, some very faint music at about 1700 kHz, and this was on about 3"
> of wire sticking out of the back of the set. Happy with this. Static on
> the other bands, but that's expected. At least none are stone-cold dead.
>
> I got the main B+ up to about +360 VDC which is as high as I dared and the
> bias stayed pretty close to around -50 VDC, and the whole lash-up was
> drawing about 118 watts at about 90% to 95% line voltage on the 130 VAC tap
> of the power supply. The BFO works, crystal selectivity control works but
> shows huge hand-effects due to the metal replacement for the broken-off
> phenolic crystal phasing shaft, and from time to time, the sensitivity

> adjustment will ground out the -50 VDC bias (really bad!). I did NOT see
> the S-meter move at all, but since no antenna other than about 3" of wire
> coming out of the back of the tuner, I'm not shocked.
>
> The P-P 6F6's got really hot as did the 6F6 driver, so I need to check
> values around the driver and output stages for drifted components.
> (transformers stayed room temperature) But, folks did say that the 6F6's
> get hot, and uh yeah, that's very true, nearly burned my fingers finding
> that out. ;)
>
> The to-do list:
>
> 1) obviously, pull the tuner and get all the wax-papers out of it.
> 2) resistor check / cap replacement in the rest of the unit
> 3) figure out what's going on with the sensitivity pot - might have to
> replace it
> 4) clean / lube the rest of the pots
> 5) replace the metal crystal phasing knob shaft with phenolic, garolite,
> or plastic (I might 3D print one out of PET-G)
> 6) the dial scale disks have shrunk and warped over time. They don't
> make good frictional contact with the tuning knob pinch-wheels. Pretty
> sure I can modify the pinch-wheels for a little better grip - probably 3D
> printing new larger ones - and have to think about if I want to risk trying
> to heat up the disks to unwarped them.
>
> Will keep folks informed!
>
> thanks much and 73,
> ben, kd5byb
>
> -----
> BoatAnchors mailing list
> BoatAnchors at lists.theporch.com
> <https://lists.theporch.com/mailman/listinfo/boatanchors>
>

From k1lky68 at gmail.com Mon Sep 19 13:01:32 2022
From: k1lky68 at gmail.com (Roy Morgan)
Date: Mon, 19 Sep 2022 09:01:32 -0400
Subject: [BoatAnchors] Super-Pro BC-794 power-up test
In-Reply-To: <406229944.5427780.1663542465400@mail.yahoo.com>
References: <406229944.5427780.1663542465400@mail.yahoo.com>
Message-ID: <8C1ACFC1-27CB-461B-B5DE-30D75EB19F0B@gmail.com>

The 6F6's are fed through coupling caps from the driver stage, right??? (Not a push pull audio transformer with fixed grid bias.)

REPLACE THOSE CAPS NOW, or risk destruction of the 6F6's and the audio output transformer.

- measure 6F6 grid voltage with B+ but NO filament supply if you don't trust me.
- measure 6F6 cathode self-bias resistor, then operating cathode voltage
- finally, replace cathode resistor bypass cap and increase cathode to ground resistor (no one needs the amount of audio output available with the original design.)

Roy Morgan
K1LKY Western Mass
K1LKY68 at gmail.com

> On Sep 18, 2022, at 7:08 PM, Arden Allen via BoatAnchors <boatanchors at lists.theporch.com> wrote:

>

> ?".....The P-P 6F6's got really hot as did the 6F6 driver,....."

> Note the 6F6's heater requirement: 6.3 volts @ 0.7 amps = 4.41 watts.
Quiescent plate dissipation for p-p class A1 operation: 20 watts nominal according to datasheet.

> That's why that tube gets blazing hot.

> ArdenKB6NAX

>

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> BoatAnchors mailing list

> BoatAnchors at lists.theporch.com

> <https://lists.theporch.com/mailman/listinfo/boatanchors>

From cbmcgr at gmail.com Mon Sep 19 13:37:20 2022

From: cbmcgr at gmail.com (C McGregor)

Date: Mon, 19 Sep 2022 06:37:20 -0700

Subject: [BoatAnchors] Super-Pro BC-794 power-up test

In-Reply-To: <8C1ACFC1-27CB-461B-B5DE-30D75EB19F0B@gmail.com>

References: <406229944.5427780.1663542465400@mail.yahoo.com>

<8C1ACFC1-27CB-461B-B5DE-30D75EB19F0B@gmail.com>

Message-ID: <CAFTq00R9E_uYQTZNoV48T+EPtMGq6RhShLnBgBTP9Cm=3rQYjA@mail.gmail.com>

Wrong! In the SP-200 family of receivers the push-pull 6F6 output tubes are transformer driven by a 6F6 driver, which is fixed-biased from the -50volt bias supply. Applying power without the -50v bias supply will burn out the driver transformer primary.

-Chuck K7MCG

On Mon, Sep 19, 2022 at 6:01 AM Roy Morgan via BoatAnchors <boatanchors at lists.theporch.com> wrote:

> The 6F6's are fed through coupling caps from the driver stage, right???

> (Not a push pull audio transformer with fixed grid bias.)

>

> REPLACE THOSE CAPS NOW, or risk destruction of the 6F6's and the audio

> output transformer.

>

> -measure 6F6 grid voltage with B+ but NO filament supply if you don't

> trust me.

> - measure 6F6 cathode self-bias resistor, then operating cathode voltage

>

> - finally, replace cathode resistor bypass cap and increase cathode to

> ground resistor (no one needs the amount of audio output available Ruth the

> otiginal design.)

>

> Roy Morgan

> K1LKY Western Mass

> K1LKY68 at gmail.com

>

> > On Sep 18, 2022, at 7:08 PM, Arden Allen via BoatAnchors <

> boatanchors at lists.theporch.com> wrote:

> >

> > ?".....The P-P 6F6's got really hot as did the 6F6 driver,....."

> > Note the 6F6's heater requirement: 6.3 volts @ 0.7 amps = 4.41 watts.

> Quiescent plate dissipation for p-p class A1 operation: 20 watts nominal

> according to datasheet.

> > That's why that tube gets blazing hot.

> > ArdenKB6NAX

> >

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> > BoatAnchors mailing list

> > BoatAnchors at lists.theporch.com

> > <https://lists.theporch.com/mailman/listinfo/boatanchors>

> > -----

> > BoatAnchors mailing list

> > BoatAnchors at lists.theporch.com

> > <https://lists.theporch.com/mailman/listinfo/boatanchors>

>

From k1lky68 at gmail.com Mon Sep 19 13:41:01 2022
From: k1lky68 at gmail.com (Roy Morgan)
Date: Mon, 19 Sep 2022 09:41:01 -0400
Subject: [BoatAnchors] Super-Pro BC-794 power-up test

In-Reply-To: <CAFTq00R9E_uYQTZNoV48T+EPtMGq6RhShLnBgbTP9Cm=3rQYjA@mail.gmail.com>
References: <CAFTq00R9E_uYQTZNoV48T+EPtMGq6RhShLnBgbTP9Cm=3rQYjA@mail.gmail.com>
Message-ID: <8B7B59E3-CEB5-4382-9947-D4F60E72FBA2@gmail.com>

Thanks for the correction. I have a BC-779 waiting for overhaul and was going on incorrect memory.

Roy Morgan
K1LKY Western Mass
K1LKY68 at gmail.com

> On Sep 19, 2022, at 9:38 AM, C McGregor via BoatAnchors <boatanchors at lists.theporch.com> wrote:

>

> ?Wrong! In the SP-200 family of receivers the push-pull 6F6 output tubes
> are transformer driven by a 6F6 driver, which is fixed-biased from the
> -50volt bias supply. Applying power without the -50v bias supply will burn
> out the driver transformer primary.

>

> -Chuck K7MCG

>

>

>

>> On Mon, Sep 19, 2022 at 6:01 AM Roy Morgan via BoatAnchors <
>> boatanchors at lists.theporch.com> wrote:

>>

>> The 6F6's are fed through coupling caps from the driver stage, right???
>> (Not a push pull audio transformer with fixed grid bias.)

>>

>> REPLACE THOSE CAPS NOW, or risk destruction of the 6F6's and the audio
>> output transformer.

>>

>> -measure 6F6 grid voltage with B+ but NO filament supply if you don't
>> trust me.

>> - measure 6F6 cathode self-bias resistor, then operating cathode voltage
>>

>> - finally, replace cathode resistor bypass cap and increase cathode to
>> ground resistor (no one needs the amount of audio output available Ruth the
>> otiginal design.)

>>

>> Roy Morgan
>> K1LKY Western Mass
>> K1LKY68 at gmail.com

>>

>>> On Sep 18, 2022, at 7:08 PM, Arden Allen via BoatAnchors <
>> boatanchors at lists.theporch.com> wrote:

>>>

>>> ?".....The P-P 6F6's got really hot as did the 6F6 driver,....."

```
>>> Note the 6F6's heater requirement: 6.3 volts @ 0.7 amps = 4.41 watts.  
>> Quiescent plate dissipation for p-p class A1 operation: 20 watts nominal  
>> according to datasheet.
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>>> That's why that tube gets blazing hot.
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>>> ArdenKB6NAX
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>>> -----  
>>> BoatAnchors mailing list
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>>> BoatAnchors at lists.theporch.com
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>>> https://lists.theporch.com/mailman/listinfo/boatanchors
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> BoatAnchors mailing list
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> BoatAnchors at lists.theporch.com
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> https://lists.theporch.com/mailman/listinfo/boatanchors
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From knjhanlon at msn.com Mon Sep 19 16:46:53 2022

From: knjhanlon at msn.com (JAMES HANLON)

Date: Mon, 19 Sep 2022 16:46:53 +0000

Subject: [BoatAnchors] ReSuper-Pro BC-794 power-up test

Message-ID:

<SJ0PR17MB5828BF090E29D7B2B5802131A04D9@SJ0PR17MB5828.namprd17.prod.outlook.com>

Ben,

One of your to-do items for your Super Pro is: "the dial scale disks have shrunk and warped over time. They don't make good frictional contact with the tuning knob pinch-wheels. Pretty sure I can modify the pinch-wheels for a little better grip - probably 3D printing new larger ones - and have to think about if I want to risk trying to heat up the disks to unwarped them."

I had a similar problem with an HQ-120, a little older than your BC-794. I'm guessing it is generic to pre-war and war-time Hammarlunds, as I've not seen the same problem in a number of post-war HQ-129x, HQ-140, HQ-145, HQ-105, and SP-600 receivers that have wandered across my bench from time to time.

I solved the shrinking problem for my HQ-120 by mounting another, clear-plastic disc behind the original one, cut so that it would engage the pinch wheel. My wife is a quilter, and her quilt shop had a sheet of clear plastic that was large enough for me to cut a couple of discs from it. It wasn't an elegant solution like doing 3D printing, but it got the job done.

Jim, W8KGI

From jerry7proc at yahoo.com Tue Sep 20 20:40:21 2022
From: jerry7proc at yahoo.com (Jerry Proc)
Date: Tue, 20 Sep 2022 20:40:21 +0000 (UTC)
Subject: [BoatAnchors] Radio History - Book Availability
References: <946955714.540455.1663706421592.ref@mail.yahoo.com>
Message-ID: <946955714.540455.1663706421592@mail.yahoo.com>

<https://www.radiohistoryshiptoshore.com/>

-- Regards, Jerry Proc E-mail: jerry7proc at yahoo.com

From kd5byb at kd5byb.net Sat Sep 24 12:51:08 2022
From: kd5byb at kd5byb.net (Ben Hall)
Date: Sat, 24 Sep 2022 07:51:08 -0500
Subject: [BoatAnchors] ReSuper-Pro BC-794 power-up test
In-Reply-To:
<SJ0PR17MB5828BF090E29D7B2B5802131A04D9@SJ0PR17MB5828.namprd17.prod.outlook.com>
References:
<SJ0PR17MB5828BF090E29D7B2B5802131A04D9@SJ0PR17MB5828.namprd17.prod.outlook.com>
Message-ID: <666a6c18-4a4a-ae7d-4111-464629f2a424@kd5byb.net>

Good morning James and all,

Been a busy week - hoped to get up early this morning, take care of some chores, and start work on the BC-794. Unfortunately, woke up feeling kind of ill so it may end up being a very unproductive Saturday for radio work.

But, thought I'd catch up on correspondence. Appreciate all of the replies I've received since my last post. I'm going to try and respond to all of them in one post. I'm using Jim, W8KGI's post as my guide.

On 9/19/2022 11:46 AM, JAMES HANLON wrote:
> One of your to-do items for your Super Pro is: "the dial scale disks
> have shrunk and warped over time.

Indeed. :)

> I solved the shrinking problem for my HQ-120 by mounting another,
> clear-plastic disc behind the original one, cut so that it would
> engage the pinch wheel.

That's a very clever solution! Somewhere in my piles of junk I do have suitable thin and clear plastic. Figure I could draw up a pattern in CAD, print 1:1 size, use water-soluble glue-stick to adhere the paper to the plastic, and simply cut on

the lines. I like this.

My plan had been to replace the steel pinch disks with larger 3D printed ones. Once I get the tuner out and get a better idea of what's going on, I'll decide which way I want to go. :)

There were discussions about coupling caps in the audio output sections. The PP 6F6 output tubes are transformer coupled, so no capacitors as was noted. There is a cap in the 6F6 driver, but I don't have my schematic out right now and am not sure if a leaking cap in this position would cause problems with the driver. For sure, I didn't operate the set for long, just enough to know that I had a somewhat-working set to start out with.

Totally agree with Dave, AB5S, that 385 vdc to the 6F6 output tubes is really hammering them. The battery setup shown in the manual, that supplies +225 VDC (if I remember right) is far more sane IMHO. I hate modifying stuff, but I'm seriously considering modifying the power supply to operate the set at the more sane +225 VDC and put up with whatever side effects may occur. (I'm thinking just less audio output)

Interestingly enough, I do have a rather beat-up Heathkit power supply that I modified for TCS service that would supply the +220 VDC no problem, but it's 12 VAC filaments, not 6. I may end up not modifying the original supply and building something new. We'll see.

Chuck, K7MCG, noted that these receivers are well-shielded, and to not expect signals without a few feet of antenna and a good ground. Totally agree - other than the pinch-wheel tuning, these are very nicely designed receivers from a mechanical point of view. I wasn't really expecting to get anything with just a short piece of wire, but was extremely happy when I at least got a few signals here and there. When I get to feeling better, I'm going to tack up about 8 feet of wire from the set to the ceiling of the garage and see what I get.

Chuck also mentioned paper caps in T4 and T6. These are on my list for replacement, which looks like it's going to be "slightly fun," but I've yet to really see what this entails.

So that's where I am with the BC-794. I'll keep folks posted!

thanks much and 73,
ben, kd5byb

From arc5 at ix.netcom.com Sat Sep 24 13:27:17 2022
From: arc5 at ix.netcom.com (David Stinson)
Date: Sat, 24 Sep 2022 08:27:17 -0500
Subject: [BoatAnchors] ReSuper-Pro BC-794 power-up test
In-Reply-To: <666a6c18-4a4a-ae7d-4111-464629f2a424@kd5byb.net>
References:

<SJ0PR17MB5828BF090E29D7B2B5802131A04D9@SJ0PR17MB5828.namprd17.prod.outlook.com>
<666a6c18-4a4a-ae7d-4111-464629f2a424@kd5byb.net>
Message-ID: <8325377b-7397-7a4a-d428-eb013d3f852f@ix.netcom.com>

Thank you for keeping us posted on your project, Ben.
Many of us enjoy and learn from such posts.
Do you have an adjustable B+ power supply with an isolated ground you could use to test the PA B+ issue?
I was talking with an acquaintance some years ago about this very thing. It was a Navy "entertainment" receiver with P-P outputs, but I can't now remember which one. His theory was they "pushed" the outputs hard because the thing was going to drive several remote speakers. +225 may work well, or it may reduce to headphone volume for battery op.
Will be interesting to see. I need to download a diagram and look at that stage. Got my "curious bone" itching ;-).
GL OM DE Dave AB5S

On 9/24/2022 7:51 AM, Ben Hall via BoatAnchors wrote:

> Good morning James and all,
>

--

This email has been checked for viruses by Avast antivirus software.
www.avast.com

From thompson at mindspring.com Sat Sep 24 13:40:21 2022
From: thompson at mindspring.com (Dave Thompson)
Date: Sat, 24 Sep 2022 13:40:21 +0000
Subject: [BoatAnchors] Boatanchors For Sale
Message-ID: <7b977177-4fe7-4824-e779-dcb82c7cd1fc@mindspring.com>

Hey Boatanchor fans.

Rare gear for sale.

1. A Viking Sideband adapter in great shape. This is a filter type that actually is a transmitter that only needs a decent VFO to make a complete 2 watt transmitter. Designed to hook to the Valiant 2. Built in power supply. Good manual copy. I am asking \$500 but will take \$400 pick up in Peachtree Corners NE of Atlanta.

2. A 963 Mobile SSB pair restored to full operation in 2019. Used to check into the Vintage SSB net on 20 twice with good reports. This set has the power supply, all wiring to make it work a Dow key relay from Jon K1VVC, and manuals. Asking \$400 but will take \$300 if picked up in Peachtree Corners 30 miles NE of Atlanta.

HX-20/HR-20.

Will take cash, check or PAYPAL with 4% extra for fee Might consider best offer on either

73 Dave K4JRB thompson at mindspring.com (mailto:thompson at mindspring.com)
770-448-0588 Leave message if no answer

From kd5byb at kd5byb.net Sun Sep 25 21:07:59 2022
From: kd5byb at kd5byb.net (Ben Hall)
Date: Sun, 25 Sep 2022 16:07:59 -0500
Subject: [BoatAnchors] Super-Pro BC-794 - the tuner is OUT
In-Reply-To: <8325377b-7397-7a4a-d428-eb013d3f852f@ix.netcom.com>
References:
<SJ0PR17MB5828BF090E29D7B2B5802131A04D9@SJ0PR17MB5828.namprd17.prod.outlook.com>
<666a6c18-4a4a-ae7d-4111-464629f2a424@kd5byb.net>
<8325377b-7397-7a4a-d428-eb013d3f852f@ix.netcom.com>
Message-ID: <08e9df98-1192-b44b-5f1e-b49c05afbdb0@kd5byb.net>

Good afternoon all,

So I took the leap and removed the tuner from the Super Pro BC-794 today. Not a terrible job, there are something like a dozen wires that need to be unhooked, or in my case, since I'll be replacing the wiring, just cut. This tuner has been out before as there were a bunch of Phillips cross-recessed screws holding the tuner in which are clearly NOT original. Two screws were hiding at the back of the tuner which caused me so headache until I removed the rear side-covers and saw them.

Three 0.02uF (schematic shows 0.01uF) paper caps were replaced with poly units and three 10k resistors were also replaced. All the caps were leaky, and while the resistors were not terrible (11.2k, 10.9k, 10.7k, 10% units spec'ed) they all got replaced too because I hope to not be back in here again anytime soon.

All easy-to-reach ground connections got a drop of de-oxit D5 and a little bit of tweaking just in case. The ground wipers on the tuning cap got de-oxit and some cleaning with a q-tip, and the end bearings got CLP (military firearm Cleaner, Lubricant, Protectant) which is really good at busting up crud while leaving lubrication.

One thing weird was noted - the bandsread cap is NOT fully meshed at zero, and going to 100 goes thru full "open" then begins to close again. If I read the manual correctly, the bandsread cap should be at minimum when the scale is at 100. And per the manual, when the bandsread is numerically reduced, the frequency goes down. So at 100, the bandsread cap should be full "open" or unmeshed. I marked the original position with witness marks and pulled off the

dial to see if I could see any set-screw witness marks and I could not.

I'm now at a stopping point. My stash of 20 AWG 600V-rated wire is completely depleted, or I can't find it. Probably the later, my radio room / office / laboratory / play pen is just this side of a disaster area. ;) So I ordered some up and am waiting for it to come in.

PLUS, some fool replaced the 600 pF mica caps at some point in time with 500 pF in parallel with 100 pF, and did a very messy job, so that needs rectified. Got to order some 600 pF caps to do this.

Both dial scale plastics are EXTREMELY WARPED. I plan to *carefully* drill the rivets, scan them on my flatbed scanner, then stew for a minute on what to do with them. A heat-gun is probably too much, a steam iron may still be too much, and I've never tried ironing plastic back flat so this will all probably go horribly wrong. With the scans...I should be able to make or have someone make serviceable replacements. (reproduction replacements for the BC-779 are available, but not for the BC-794, and the makers of the BC-779 replacements say that they are NOT taking any order for new custom replacements.

Once the scanning is complete, will try to flatten them out then re-assemble the scales that hopefully I haven't screwed up too much. Then finish the tuner and put it aside while I address the chassis capacitors and resistors. With the tuner out, there's a BIG GAPING HOLE in the center of the chassis that makes getting at everything else WAY EASIER.

Would love to know if anyone knows of a thick white plastic that can be fed thru a laser printer. One thought I had was plain white plastic for the body of the scale, then a decal (maybe laser transparency film) gets applied to the plain white plastic. I need to stew on this some.

thanks much and 73,
ben, kd5byb

From wlfuqu00 at uky.edu Wed Sep 28 17:52:49 2022
From: wlfuqu00 at uky.edu (Fuqua, William L.)
Date: Wed, 28 Sep 2022 17:52:49 +0000
Subject: [BoatAnchors] 1921 Amateur radio transatlantic test
Message-ID:
<BN7PR03MB4499D071DC602D6EDB333206CB549@BN7PR03MB4499.namprd03.prod.outlook.com>

It would be nice to see the growth of the numbers and bands of DX QSO's after Jan 1922.

It had to have exploded during the following 5 or 10 years.

73
Bill wa4lav

From amfone20000 at yahoo.com Thu Sep 8 02:16:27 2022
From: amfone20000 at yahoo.com (amfone)
Date: Thu, 08 Sep 2022 02:16:27 -0000
Subject: [BoatAnchors] Shelby NC hamfest photos 2022
In-Reply-To: <504905ca-d1f2-29ee-d453-a87482f3c63e@earthlink.net>
References: <CAB55hNeK3Uv3CY88xGXzGPnXaPwGuTyN1QMYQj3LPXmoLzFFWA@mail.gmail.com>
<504905ca-d1f2-29ee-d453-a87482f3c63e@earthlink.net>
Message-ID: <1480365818.746875.1662603381226@mail.yahoo.com>

Amazing hamfest!!!
73 Tim
WB8UHZ

On Wednesday, September 7, 2022 at 08:49:54 PM EDT, Scott Robinson via BoatAnchors <boatanchors at lists.theporch.com> wrote:

I was amazed to see the VEF brand wood radio. I have one similar to it. I twas made in Latvia, where the Soviets concentrated their electronics manufacturing. Mid-'30s superhet, with 135 kHz (!) IF.

/scott robinson

On 9/6/22 9:20 AM, Nick England via BoatAnchors wrote:

> Shelby NC hamfest photos 2022
> <https://photos.app.goo.gl/FwAXFNSyA8qfFhbQ7>
>
> A good time was had by all.....
> Nick England K4NYW
> www.navy-radio.com
> -----
> BoatAnchors mailing list
> BoatAnchors at lists.theporch.com
> <https://lists.theporch.com/mailman/listinfo/boatanchors>

BoatAnchors mailing list
BoatAnchors at lists.theporch.com
<https://lists.theporch.com/mailman/listinfo/boatanchors>